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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,292	12/09/2003	James Knight	10541-1909	4906
57444	7590	01/09/2006	EXAMINER	
AUTOMOTIVE COMPONENTS HOLDINGS, LLC c/o MACMILLAN SOBANSKI & TODD One Maritime Plaza, Fourth Floor 720 Water Street Toledo, OH 43604-1853			BROWN, DREW J	
			ART UNIT	PAPER NUMBER
			3616	
DATE MAILED: 01/09/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/731,292	KNIGHT, JAMES	
	Examiner	Art Unit	
	Drew J. Brown	3616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/9/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: In line 9 of paragraph 13 on page 4, "passage 48" should be changed to --passage 49--. In line 8 of paragraph 17 on page 6, "engine control module 26" should be changed to --fuel control module 26--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Schondorf et al. (U.S. Pat. No. 6,640,174 B2).

Schondorf et al. discloses an occupant restraint system that includes a restraint control module for detecting vehicle impact (Abstract), and a fuel delivery system comprising an electrical fuel pump disposed within a fuel tank (inherent) for supplying fuel to the internal combustion engine (column 5, lines 1 and 2). A fuel control module is electrically connected to the electrical fuel pump for regulating operation thereof (column 4, lines 39-42), further wherein

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the fuel control module is electrically connected to the restraint control module for receiving a signal indicative of a vehicle impact directly therefrom and adapted to cease operation of the electrical fuel pump in response to the signal (column 4, lines 59-63).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schondorf et al. in view of Rodgers et al. (U.S. Pat. No. 5,752,490).

Schondorf et al. discloses the claimed invention as discussed above but does not disclose that the fuel delivery system is an electronic returnless fuel system or that the electrical fuel pump has a duty cycle that determines a fuel flow rate to the internal combustion engine, and wherein the fuel control module is adapted to regulate the duty cycle.

With respect to claim 2, Rodgers et al. does disclose that the fuel delivery system is an electronic returnless fuel system (column 2, lines 38 and 39). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Schondorf et al. in view of the teachings of Rodgers et al. to make the fuel delivery system returnless in order to eliminate the need for a separate pressure regulator.

With respect to claim 3, Rodgers et al. also discloses that the electrical fuel pump has a duty cycle that determines a fuel flow rate to the internal combustion engine, and wherein the

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fuel control module is adapted to regulate the duty cycle (claim 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Schondorf et al. in view of the teachings of Rodgers et al. for the fuel pump to have a duty cycle regulated by the fuel control module in order to maintain and efficient fuel flow while also preventing vapor lock.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schondorf et al. in view of Fischerkeller et al. (U.S. Pat. No. 6,436,287 B1).

Schondorf et al. discloses the claimed invention as discussed above but does not disclose that the fuel tank comprises an opening, wherein the fuel delivery system further comprises a flange assembly that closes the opening, and wherein the fuel control module is mounted in the flange assembly.

However, Fischerkeller et al. does disclose that the fuel tank comprises an opening (30), wherein the fuel delivery system further comprises a flange assembly (82) that closes the opening, and wherein the fuel control module (90) is mounted in the flange assembly (column 4, lines 5-15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Schondorf et al. in view of the teachings of Fischerkeller et al. to close an opening in the fuel tank with a fuel pump flange assembly including the fuel control module in order to prevent fuel leakage from the fuel tank while also using the space more efficiently due to the control module being built into the flange assembly.

7. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schondorf et al. in view of Rodgers et al. and Fischerkeller et al.

Schondorf et al. discloses an occupant restraint system that includes a restraint control module for detecting vehicle impact (Abstract), and a fuel delivery system comprising an electrical fuel pump disposed within a fuel tank (inherent) for supplying fuel to the internal combustion engine (column 5, lines 1 and 2). A fuel control module is electrically connected to the electrical fuel pump for regulating operation thereof (column 4, lines 39-42), further wherein the fuel control module is electrically connected to the restraint control module for receiving a signal indicative of a vehicle impact directly therefrom and adapted to cease operation of the electrical fuel pump in response to the signal (column 4, lines 59-63).

With respect to claim 5, Schondorf et al. does not disclose that the fuel delivery system is an electronic returnless fuel system or that the electrical fuel pump has a duty cycle that determines a fuel flow rate to the internal combustion engine, and wherein the fuel control module is adapted to regulate the duty cycle. Schondorf et al. also does not disclose that the fuel tank comprises an opening, wherein the fuel delivery system further comprises a flange assembly that closes the opening, and wherein the fuel control module is mounted in the flange assembly.

However, Rodgers et al. does disclose that the fuel delivery system is an electronic returnless fuel system (column 2, lines 38 and 39). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Schondorf et al. in view of the teachings of Rodgers et al. to make the fuel delivery system returnless in order to eliminate the need for a separate pressure regulator.

Rodgers et al. also discloses that the electrical fuel pump has a duty cycle that determines a fuel flow rate to the internal combustion engine, and wherein the fuel control module is adapted to regulate the duty cycle (claim 1). Therefore, it would have been obvious to one

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having ordinary skill in the art at the time the invention was made to modify the invention of Schondorf et al. in view of the teachings of Rodgers et al. for the fuel pump to have a duty cycle regulated by the fuel control module in order to maintain an efficient fuel flow while also preventing vapor lock.

Fischerkeller et al. discloses that the fuel tank comprises an opening (30), wherein the fuel delivery system further comprises a flange assembly (82) that closes the opening, and wherein the fuel control module (90) is mounted in the flange assembly (column 4, lines 5-15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Schondorf et al. in view of the teachings of Fischerkeller et al. to close an opening in the fuel tank with a fuel pump flange assembly including the fuel control module in order to prevent fuel leakage from the fuel tank while also using the space more efficiently due to the control module being built into the flange assembly.

With respect to claim 6, Fischerkeller et al. discloses that the flange assembly comprises a flange and an external compartment (part of flange assembly outboard the fuel tank in Figure 6) formed on the flange outboard the fuel tank, and wherein the fuel control module is disposed within the external compartment.

With respect to claim 7, the flange assembly comprises a conduit (94) coupled to the electrical fuel pump and to a fuel line connected to the internal combustion engine (column 4, lines 16-18).

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schondorf et al. in view of Rodgers et al. and Fischerkeller et al., and further in view of Graham et al. (U.S. Pat. No. 6,302,144 B1).

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The combination of Schondorf et al., Rodgers et al., and Fischerkeller et al. discloses the claimed invention as discussed above but does not disclose that the flange assembly comprises a fuel pressure sensor electrically connected to the fuel control module.

However, Graham et al. does disclose that the flange assembly comprises a fuel pressure sensor (38) electrically connected to the fuel control module. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to connect a fuel pressure sensor to the fuel control module in order provide an indication of fuel pump output pressure to the fuel control module.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lassiter, Frimberger et al., Washeleski et al., Hosoya, Cook, Aubree et al., Okazona et al., Cotton et al., and Breed et al. disclose similar fuel delivery systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Drew J. Brown whose telephone number is 571-272-1362. The examiner can normally be reached on Monday-Thursday from 7 a.m. to 4 p.m..

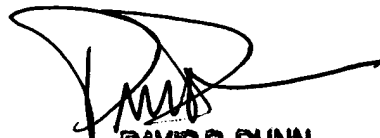
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul N. Dickson can be reached on 571-272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Drew J Brown
Examiner
Art Unit 3616

DJB



DAVID R. DUNN
PRIMARY EXAMINER